



Russian River Estuary - Jetty Study FAQ's

Why is the Water Agency studying the jetty?

National Marine Fisheries Service's (NMFS) Russian River Biological Opinion requires the Water Agency to study the jetty to determine if and how it impacts the formation of the sand bar (known as a "barrier beach") at the mouth of the Russian River estuary, and subsequently, the impact of the jetty on water levels in the estuary. The study will evaluate how the jetty affects ocean and river processes and whether modifying or removing the jetty would improve the likelihood of achieving the water surface elevations recommended by NMFS.

What are the elements of the studies?

Field studies that will take place in the next year, beginning this fall, include three components:

- Monitoring wells to determine how and where water seeps through the barrier beach and jetty, both from the river and from the ocean.
- Seismic refraction, electrical resistivity profiling and ground penetrating radar will be used to map the materials that have been buried by sand. These surveys don't require construction.
- Electromagnetic profiles will be collected once the initial mapping surveys have been completed in order to explore how the jetty impacts water seeping through the beach.

Who will be conducting the studies?

A drilling contractor will be contracted to dig and install the monitoring wells. Water Agency staff will maintain and inspect the wells and download data from the field monthly. Geophysical surveys will be conducted by NORCAL Geophysical Consultants Inc. Electromagnetic profiles will be conducted by Lawrence Berkeley National Laboratory (LBNL).

Will I be able to use the beach during construction of the monitoring wells?

Yes, Goat Rock State Beach will be open during its normal hours throughout the study. During the short construction period people will not be able to enter the areas of the beach where the monitoring wells are being drilled.

How long will it take to drill the monitoring wells?

The drilling and installation of the monitoring wells should be completed in two to four days.

How long will the wells be in place?

The temporary monitoring wells will be in place for two to three years. The wells will help the Water Agency better understand the effect the jetty has on water seeping through the beach.

Could people or animals fall into the wells?

No, the wells will only be two inches in diameter and will be capped and buried beneath the sand.



Will drilling the wells make noise?

Drilling the wells will generate noise estimated to be 85-90 decibels at a distance of 20 feet. The sound level is similar to the noise made by a lawn mower or diesel truck engine. NMFS has established 90 decibels as the safe threshold of the noise levels heard by harbor seals and other pinnipeds (which generally haul-out about 200 feet from where the wells will be drilled).

How long will it take to conduct the mapping surveys?

Seismic refraction and electrical resistivity profiling will be conducted simultaneously and should take two days to complete. Ground penetrating radar profiles should be completed in one day. Electromagnetic profiles will be conducted over a period of eight months. Several visits will be made to the beach during this time and each mapping survey will take about four hours to complete.

Will people be able to use the beach while the mapping surveys are being conducted?

Yes, people can use Goat Rock State Beach as usual during mapping surveys.

How are the mapping surveys conducted?

The seismic refraction survey will be conducted by a three-person crew. A small all-terrain vehicle will provide seismic energy by dropping a 100 pound weight on a steel plate placed on the sand surface. The energy will not be felt by people or wildlife as the detectors are very sensitive.

The electrical resistivity survey will also involve a three-person crew. Measurements will be taken of small amounts of current induced into the ground.

Ground penetrating radar survey will be performed over the suspected breakwater. A ground-penetrating radar antenna mounted on a small wheeled cart sends and receives subsurface signals.

How will these studies affect the harbor seals that use Goat Rock State Beach?

The installation of the monitoring wells will generate noise. Because the harbor seal haulout is located further than 200 feet from the location of the wells, the anticipated "received" noise levels will be below the safe threshold for disturbance as defined by the National Marine Fisheries Service.

Seals are likely to be slightly disturbed by the presence of people conducting mapping surveys in the vicinity of the haulout, as often occurs when beach visitors are present. Personnel will be trained in ways to minimize disturbance to seals by approaching the haulout area slowly and avoiding it when necessary.

Water Agency biologists will be on site to monitor and record any disturbance to seals during jetty study activities. These activities are permitted under the Water Agency's Marine Mammal Protection Act Incidental Harassment Authorization issued April 17, 2012.

When will the study be complete?

Data collection, analysis and interpretation for the jetty study will take approximately two years to complete.

How will the study results be used?

The jetty study will be used to describe the extent and composition of the jetty, understand the jetty's effects on beach permeability, sand storage and sand transport, and evaluate the jetty's role in flood risk to property adjacent to the estuary. This information will be used to evaluate what role the jetty plays in barrier beach formation, its influence on water surface elevations within the estuary, and if feasible alternatives exist for modifying or removing the jetty to enhance management of the estuary.